

To the Specification:

Please amend paragraph [0012] as follow:

[0012] According to one embodiment of the present invention, the driving thin film transistor can be an N-[[type]]channel thin film transistor, and the AMOLED pixel can further comprise: an organic light emitting diode (OLED), having an anode and a cathode, wherein the anode is connected to a positive power source; a first switch, with one end connected to the cathode of the OLED and another end connected to a drain of the driving thin film transistor; a second switch, with one end connected to the current source and another end connected to the drain of the driving thin film transistor; and a third switch, with one end connected to the drain of the driving thin film transistor and another end connected to the gate of the driving thin film transistor and one end of the capacitor, and wherein the other end of the capacitor is connected to a negative power source.

Please amend paragraph [0013] as follow:

[0013] According to another embodiment of the present invention, the driving thin film transistor can be a P-[[type]]channel thin film transistor, and the AMOLED pixel can further comprise: an organic light emitting diode (OLED), having an anode and a cathode, wherein the anode is connected to a negative power source; a first switch, with one end connected to the anode of the OLED and another end connected to a drain of the driving thin film transistor; a second switch, with one end connected to the current source and another end connected to the drain of the driving thin film transistor; and a third

switch, with one end connected to the drain of the driving thin film transistor and another end connected to the gate of the driving thin film transistor and one end of the capacitor, and wherein the other end of the capacitor is connected to a positive power source.

Please amend paragraph [0014] as follow:

[0014] In the aforementioned driving circuit, the first, the second, the third switches and the pre-charge switch can be N-[[type]]channel or P-[[type]]channel thin film transistors. In addition, the driving power source can use the above positive or negative power source. Alternatively, the driving power source can be also a driving power source capable of pre-charging the capacitor to a voltage that is close to a threshold voltage of the thin film transistor.

Please amend paragraph [0023] as follow:

[0023] Fig. 4 is a driving circuit diagram of the current-driven AMOLED pixel of Fig. 3, in which N-[[type]]channel thin film transistors are used as the switches.

Please amend paragraph [0026] as follow:

[0026] Fig. 7 is a driving circuit diagram of the current-driven AMOLED pixel of Fig. 6, in which P-[[type]]channel thin film transistors are used as the switches.

Please amend paragraph [0029] as follow:

[0029] The operation of the driving circuit of the first embodiment is described as follows. The pre-charge switch 270 is first turned on by the control signal V_{S3} as shown in Fig. 5, so that the driving power source V_t pre-charges the capacitor 260 to a pre-charge voltage level before the current source is able to charge or discharge the capacitor 260. Preferably, the pre-charge voltage level is close to a level of the threshold voltage of the driving thin film transistor 250. In this way, when the current source charges or discharges the capacitor 260, a voltage across the capacitor 260 can be fast stabilized to a driving voltage level corresponding to a gray-scale current of the current source. If the number of wires and power sources of the driving circuit are required to be reduced, a positive power source V_{dd} of the driving circuit can be used as the driving power source V_t to pre-charge the capacitor 260 to the pre-charge voltage level.

Please amend paragraph [0030] as follow:

[0030] After the pre-charge a driving voltage adjustment stage is proceeded. At this time, the pre-charge switch 270 is turned off by the control signal V_{S3} , and the second switch 220 and the third switch 230 are turned on by the control signal V_{S2} as shown in Fig. 5, so that the voltage across the capacitor 260 can be fast adjusted to a driving voltage level corresponding to a gray scale current of the current source. Namely, when the voltage across the capacitor 260 is higher than the driving voltage level corresponding to the gray scale current of the current source, the capacitor 260 is discharged down to the corresponding driving voltage level. When the voltage across the capacitor 260 is lower

than the driving voltage level corresponding to the gray scale current of the current source, the capacitor 260 is charged up to the required driving voltage level.

Please amend paragraph [0031] as follow:

[0031] Then the driving circuit proceeds to an illumination stage. At this time, the second switch 220 and the third switch 230 are turned off by the control signal V_{S2} , and the first switch 210 is turned on by the control signal V_{S1} as shown in Fig. 5. Therefore, a current, which flows through the OLED 240 and the drain and the source of the driving thin film transistor 250, will be equal to the gray scale current of the current source due to the driving of the voltage across the capacitor 260.

Please amend paragraph [0032] as follow:

[0032] The first switch 210, the second switch 220, the third switch 230 and the pre-charge switch 270 can be an N-[[type]]channel or a P-[[type]]channel thin film transistor. Fig. 4 shows the driving circuit of the AMOLED pixel in which N-[[type]]channel thin film transistors are used as the switches 210, 220, 230 and 270. Fig. 5 is a timing diagram of control signals of the switches. Although a driving circuit of the AMOLED pixel in which P-[[type]]channel thin film transistors are used as the switches is not shown, the skilled person can still understand easily its structure and operation process by referring to Figs. 4 and 5.

Please amend paragraph [0033] as follow:

[0033] Fig. 6 shows an exemplary driving circuit of a current-driven AMOLED pixel according to the second embodiment of the present invention. In Fig. 6, in addition to a P-[[type]]channel thin film transistor being used to make a driving thin film transistor 650 of the driving circuit of the AMOLED pixel 690, the driving circuit comprises a pre-charge switch 670 connected to a driving power source V_t . The driving circuit further comprises a capacitor 660, an OLED 640, a first switch 610, a second switch 620 and a third switch 630. The OLED 640 has an anode and a cathode, wherein the cathode is connected to a negative power source V_{ss} . One end of the first switch 610 is connected to the anode of the OLED 640, and another end of the first switch 610 is connected to the drain of the driving thin film transistor 650. One end of the second switch 620 is connected to a current source and another end of the second switch 620 is connected to the drain of the driving thin film transistor 650. One end of the third switch 630 is connected to the drain of the driving thin film transistor 650 and another end of the third switch 630 is connected to the gate of the driving thin film transistor 650 and one end of the capacitor 660. The other end of the capacitor 660 and the source of the driving thin film transistor 650 are connected to a positive power source V_{dd} .

Please amend paragraph [0034] as follow:

[0034] The operation of the driving circuit of the second embodiment is described as follows. The pre-charge switch 670 is first turned on by the control signal V_{S3} , so that

the driving power source V_t is able to pre-charge the capacitor 660 to a pre-charge voltage level before the current source charges or discharges the capacitor 660. Preferably, the pre-charge voltage level is close to a level of the threshold voltage of the driving thin film transistor 650. In this way, when the current source charges or discharges the capacitor 660, a voltage across the capacitor 660 can be fast stabilized to a driving voltage level corresponding to a gray-scale current of the current source. If the number of wires and power sources of the driving circuit are required to be reduced, the negative power source V_{ss} of the driving circuit can be used as the driving power source V_t to pre-charge the capacitor 660 to the pre-charge voltage level.

Please amend paragraph [0035] as follow:

[0035] After the pre-charge a driving voltage adjustment stage is proceeded. At this time, the pre-charge switch 670 is turned off by the control signal V_{S3} , and the second switch 620 and the third switch 630 are turned on by the control signal V_{S2} , so that the voltage across the capacitor 660 can be fast adjusted to a driving voltage level corresponding to a gray scale current of the current source. Namely, when the voltage across the capacitor 660 is higher than the driving voltage level corresponding to the gray scale current of the current source, the capacitor 660 is discharged down to the corresponding driving voltage level. When the voltage across the capacitor 660 is lower than the driving voltage level corresponding to the gray scale current of the current source, the capacitor 660 is charged up to the required driving voltage level.

Please amend paragraph [0036] as follow:

[0036] Then, the driving circuit proceeds to [[a]]an illumination stage. At this time, the second switch 620 and the third switch 630 are turned off by the control signal V_{S2} , and the first switch 610 is turned on by the control signal V_{S1} . Therefore, a current, which flows through the OLED 640 and the drain and the source of the driving thin film transistor 650, will be equal to the gray scale current of the current source due to the driving of the voltage across the capacitor [[260]]660.

Please amend paragraph [0037] as follow:

[0037] Similarly, the first switch 610, the second switch 620, the third switch 630 and the pre-charge switch 670 can be a P-[[type]]channel or an N-[[type]]channel thin film transistor. Fig. 7 shows the driving circuit of the AMOLED pixel in which P-[[type]]channel thin film transistors are used as the switches 610, 620, 630 and 670. Fig. 5 is a timing diagram of control signals of the switches. Although a driving circuit of the AMOLED pixel in which N-[[type]]channel thin film transistors are used as the switches is not shown, the skilled person can still understand easily its structure and operation process by referring to Figs. 7 and 5.